Patent Claims

1. A gene therapeutic nucleic acid working model containing a regulatory nucleic acid sequence of 5' end of myosin light chain 2 gene (MLC 2) of the heart that is functionally connected with the nucleic acid, which is encoded for a therapeutically effective gene product, for an antisense nucleic acid, or for a ribosome.

2. A nucleic acid working model according to claim 1, characterized in that the named regulatory nucleic acid sequence comes from the hearts of mammals, particularly humans or rodents, mainly from rats.

3. A nucleic acid working model according to claim 1 or 2, characterized in that the named regulatory nucleic acid sequence comprises the nucleic acids of positions from approximately +18 to -19 up to approximately -800, above all from +18 to -19 up to approximately -1600, and especially from approximately +18 to -19 up to approximately -1800, above all from approximately +18 to -19 up to approximately -2100 or from approximately +18 to -19 up to approximately -2700 with respect to the transcription starting point of the myosin light chain 2 gene (MLC 2) of the heart.

4. A nucleic acid working model according to one of claims 1 to 3, characterized in that the named regulatory nucleic acid sequence comprises the HF 1a element, the HF 1b element, the MLE1 element, and the HF 3 element.

5. A nucleic acid working model according to claim 4, characterized in that the named regulatory nucleic acid sequence also comprises the E box element and/or the HF 2 element.

6. A nucleic acid working model according to claim 4 or 5, characterized in that the named regulatory nucleic acid sequence also comprises the CSS sequence.

7. A nucleic acid working model according to one of claims 1 to 6, characterized in that the nucleic acid sequence is a DNA or RNA sequence, preferably a DNA sequence.

8. A nucleic acid working model according to claim 7, characterized in that the named DNA or RNA sequence is contained in a virus vector.

9. A nucleic acid working model according to claim 8, characterized in that the named DNA sequence sis contained in an adenovirus vector or adeno-associated virus vector, preferably in an adenovirus vector.

10. A nucleic acid working model according to claim 9, characterized in that the named adenovirus vector is a replication deficient adenovirus vector.

11. A nucleic acid working model according to claim 9, characterized in that the named adeno-associated virus vector consists exclusively of two inverted terminal repetition sequences (ITR).

12. A nucleic acid working model according to one of claims 1 to 11, characterized in that the therapeutic gene product is selected from a dystrophin, ß adrenergic receptor, or nitrogen monoxide synthesis.

13. A nucleic acid working model according to one of claims 1 to 11, characterized in that the nucleic acid, which is encoded for a therapeutically effective gene product, contains one or several non-encoding sequences and/or one polyA sequence.

14. A process for producing a nucleic acid working model according to one of claims 1-13, characterized in that the named regulatory nucleic acid sequence is functionally connected with a nucleic acid, which encodes for a therapeutically effective gene product, for an antisense nucleic acid, or for ribosome

15. A process according to claim 14, characterized in that the named nucleic acid sequence is cloned additionally in virus vector according to one of claims 8-11 and/or complexed by means of liposomes.

16. An application of a nucleic acid working model according to one of claims 1-13 for producing a medication for gene therapeutic treatment of heart disease.

17. An application according to claim 16, characterized in that the heart disease is a heart insufficiency, dilative or hypertrophic cardiomyopathy, dystrophinopathy, vessel disorder, high blood pressure, atherosclerosis, stenosis, and/or restenosis of the blood vessels.

18. An application according to one of claims 16 or 17, characterized in that the named medication acts essentially on the heart cavity.

19. Medication containing a nucleic acid working model according to one of claims 1-13 and if necessary a pharmaceutically approved carrier.

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